

## CLAIMS

What is claimed is:

- 1 1. A computer-implemented method employed within a network comprising:  
2 displaying a hierarchical tree structure having one or more tree nodes in a graphical  
3 user interface, each of the one or more tree nodes representing a resource of an application  
4 server, wherein at least one of the tree nodes represents a service of the application server;  
5 selecting the tree node representing the service of the application server; and  
6 displaying a list of one or more service references associated with the service  
7 represented by the selected tree node in the graphical user interface.
- 1 2. The method of claim 1, wherein displaying the hierarchical tree structure having one  
2 or more tree nodes in the graphical user interface comprises:  
3 displaying the hierarchical tree structure in a first window pane of the graphical user  
4 interface; and wherein displaying the list of one or more service references associated with  
5 the selected tree node in the graphical user interface comprises:  
6 displaying the list of one or more service references associated with the service  
7 represented by the selected tree node in a second window pane of the graphical user  
8 interface.
- 1 3. The method of claim 2, wherein displaying the list of one or more service references  
2 associated with the selected tree node comprises:  
3 displaying a service reference name, for each listed service reference, wherein the  
4 service reference name is to identify the service reference.
- 1 4. The method of claim 3, wherein displaying the list of one or more service references  
2 associated with the selected tree node further comprises:

3 displaying a relationship value, for each listed service reference, wherein the  
4 relationship value is to specify whether the listed service reference is to be automatically  
5 started when the service represented by the selected tree node is started.

1 5. The method of claim 4, wherein the displayed relationship value is hard, if the listed  
2 service reference is to be automatically started when the service represented by the selected  
3 tree node is started.

1 6. The method of claim 4, wherein the displayed relationship value is weak, if the listed  
2 service reference is not automatically started when the service represented by the selected  
3 tree node is started.

1 7. The method of claim 4, wherein displaying the list of one or more service references  
2 associated with the selected tree node further comprises:  
3 displaying a service reference type for each listed service reference, wherein the  
4 service reference type is to specify a service reference type for the listed service reference.

1 8. The method of claim 7, wherein the displayed service reference type is one of  
2 a service type,  
3 a library type, and  
4 an interface type.

1 9. The method of claim 4, further comprising:  
2 selecting one of the listed service references; and  
3 providing a relationship value for the selected service reference to specify whether the  
4 selected service reference is to be automatically started when the service represented by the  
5 selected tree node is started.

1 10. An apparatus comprising:  
2 a graphical user interface; and  
3 a processor and logic executable thereon to  
4 display a hierarchical tree structure having one or more tree nodes in the  
5 graphical user interface, each of the one or more tree nodes representing a resource of an  
6 application server, wherein at least one of the tree nodes represents a service of the  
7 application server;  
8 select the tree node representing the service of the application server; and  
9 display a list of one or more service references associated with the service  
10 represented by the selected tree node in the graphical user interface.

1 11. The apparatus of claim 10, wherein the graphical user interface comprises:  
2 a Swing-based graphical user interface.

1 12. The apparatus of claim 10, wherein each of the one or more tree nodes comprises:  
2 a managed bean to provide a management interface for the represented application  
3 server resource.

1 13. The apparatus of claim 10, wherein the processor and logic executable thereon to  
2 display the list of one or more service references associated with the service comprises a  
3 processor and logic executable thereon to  
4 display a service reference name, for each listed service reference, wherein the  
5 service reference name is to identify the service reference.

1 14. The apparatus of claim 13, wherein the processor and logic executable thereon to  
2 display the list of one or more service references associated with the service comprises a  
3 processor and logic executable thereon to  
4 display a relationship value, for each listed service reference, wherein the relationship  
5 value is to specify whether the listed service reference is to be automatically started when the  
6 service represented by the selected tree node is started.

1 15. The apparatus of claim 14, wherein the displayed relationship value is hard, if the  
2 listed service reference is to be automatically started when the service represented by the  
3 selected tree node is started.

1 16. The apparatus of claim 14, wherein the processor and logic executable thereon further  
2 comprises:  
3 a processor and logic executable thereon to  
4 select one of the listed service references; and  
5 provide a relationship value for the selected service reference to specify  
6 whether the selected service reference is to be automatically started when the service  
7 represented by the selected tree node is started.

1 17. A monitoring system graphical user interface comprising:  
2 a hierarchical tree structure having one or more tree nodes, each of the one or more  
3 tree nodes representing a resource of an application server, wherein at least one of the tree  
4 nodes represents a service of the application server, the one or more tree nodes selectable via  
5 a cursor control device; and  
6 wherein upon selecting the tree node representing the service of the application  
7 server, a list of one or more service references associated with the service is displayed in the  
8 graphical user interface.

1 18. The graphical user interface of claim 17, wherein each of the listed service references  
2 comprises:

3 a relationship value, wherein the relationship value is to specify whether the listed  
4 service reference is to be automatically started when the service represented by the selected  
5 tree node is started.

1 19. The graphical user interface of claim 18, wherein, as the cursor control device selects  
2 one of the listed service references, a pull-down menu providing one or more alternative  
3 relationship values becomes available within the graphical user interface.

1 20. A system comprising:

2 a means for displaying a hierarchical tree structure having one or more tree nodes in a  
3 graphical user interface, each of the one or more tree nodes representing a resource of an  
4 application server, wherein at least one of the tree nodes represents a service of the  
5 application server;

6 a means for selecting the tree node representing the service of the application server;  
7 and

8 a means for displaying a list of one or more service references associated with the  
9 service represented by the selected tree node in the graphical user interface.

1 21. The system of claim 20, wherein the means for displaying the list of one or more  
2 service references comprises:

3 a means for displaying a service reference name, for each listed service reference,  
4 wherein the service reference name is to identify the service reference.

1 22. The system of claim 21, wherein the means for displaying the list of one or more  
2 service references further comprises:

3 a means for displaying a relationship value, for each listed service reference, wherein  
4 the relationship value is to specify whether the listed service reference is to be automatically  
5 started when the service represented by the selected tree node is started.

1 23. The system of claim 22, wherein

2 the displayed relationship value is hard, if the listed service reference is to be  
3 automatically started when the service represented by the selected tree node is started; and  
4 the displayed relationship value is weak, if the listed service reference is not  
5 automatically started when the service represented by the selected tree node is started.

1 24. The system of claim 22, further comprising:

2 a means for selecting one of the listed service references; and

3 a means for providing a relationship value for the selected service reference to specify  
4 whether the selected service reference is to be automatically started when the service  
5 represented by the selected tree node is started.

1 25. An article of manufacture comprising:

2 an electronically accessible medium providing instructions that, when executed by an  
3 apparatus, cause the apparatus to

4 display a hierarchical tree structure having one or more tree nodes in a  
5 graphical user interface, each of the one or more tree nodes representing a resource of an  
6 application server, wherein at least one of the tree nodes represents a service of the  
7 application server;

8 select the tree node representing the service of the application server; and

9                   display a list of one or more service references associated with the service  
10   represented by the selected tree node in the graphical user interface.

1   26.    The article of manufacture of claim 25, wherein the instructions that, when executed  
2   by the apparatus, cause the apparatus to display the list of one or more service references  
3   cause the apparatus to  
4           display a service reference name, for each listed service reference, wherein the  
5   service reference name is to identify the service reference.

1   27.    The article of manufacture of claim 26, wherein the instructions that, when executed  
2   by the apparatus, cause the apparatus to display the list of one or more service references  
3   further cause the apparatus to  
4           display a relationship value, for each listed service reference, wherein the relationship  
5   value is to specify whether the listed service reference is to be automatically started when the  
6   service represented by the selected tree node is started.

1   28.    The article of manufacture of claim 27, wherein  
2           the displayed relationship value is hard, if the listed service reference is to be  
3   automatically started when the service represented by the selected tree node is started; and  
4           the displayed relationship value is weak, if the listed service reference is not  
5   automatically started when the service represented by the selected tree node is started.

1   29.    The article of manufacture of claim 27, wherein the instructions that, when executed  
2   by the apparatus, cause the apparatus to display the list of one or more service references  
3   further cause the apparatus to  
4           display a service reference type for each listed service reference, wherein the service  
5   reference type is to specify a service reference type for the listed service reference.

1    30.    The article of manufacture of claim 30, wherein the electronically accessible medium  
2    provides further instructions that, when executed by the apparatus, cause the apparatus to  
3           select the tree node representing the service of the application; and  
4           display a list of one or more service references associated with the service represented  
5    by the selected tree node in the graphical user interface.